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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,949	12/26/2001	Naoki Mukaida	10416-18	7222
27305	7590	01/09/2008		
HOWARD & HOWARD ATTORNEYS, P.C. THE PINEHURST OFFICE CENTER, SUITE #101 39400 WOODWARD AVENUE BLOOMFIELD HILLS, MI 48304-5151			EXAMINER ROJAS, MIDYS	
			ART UNIT 2185	PAPER NUMBER
			MAIL DATE 01/09/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/032,949

Applicant(s)

MUKAIDA ET AL.

Examiner

Midys Rojas

Art Unit

2185

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/19/07 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed 11/19/07 have been fully considered but they are not persuasive.

Applicant argues that the new claims presented overcome the aforementioned Examiner's rejection. However, the newly presented claims 21-23 have been rejected in view of the previously presented patent to Hiraka (5,987,573). Please refer to the rejection below.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by "a start page, corresponding to a last page of at least one page to which data is written". It is unclear how the start page corresponds to a last page of one page. Clarification is required. For the purpose of examination, this claim will be interpreted as best understood by the examiner.

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The limitations of claim 21 are drawn to means for searching, determining, and writing; wherein the means in question may be accomplished by software (specification ,page 63, lines 20-26), thus representing a program per se.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiraka (5,987,573).

Regarding Claim 21, Hiraka discloses a memory controller (Figure 1, 10) for accessing a flash memory (FM 0-n) having a plurality of physical blocks each including a plurality of pages (flash memory divided into a plurality of blocks, each of them divided into pages, Col. 5, lines 15-20) and in which stored data is erased in a unit of the physical block (erasing is performed in units of a block, Col. 5, lines 22-23), based on a host address which is in unit of a sector of data, supplied from a host computer (the block indicated by a write command, send by the host, is erased, Col. 9, lines 24-32), comprising:

search means for searching a start page, corresponding to a last page of at least one page to which data is written, in said physical block corresponding to the host address supplied from the host computer (searching the table in response to commands from the host computer, Col. 4, lines 59-67; table search means, Claim 1, Col. 17, lines 8-34);

determining means for determining whether the at least one page designated by the host address or addresses supplied from the host computer are the searched start page, the searched start page and subsequent at least one page, or at least one page located after the start page (detection of empty block based on address data, Claim 1, Col. 17, lines 8-34);

when the system of Hiraka marks a block as empty, wherein a block is made of pages, the pages prior to the first page of the block may not be free since they are part of another block that may not be empty. However, the preceding pages within the same block are free since the entire block is empty;

write means for writing data supplied from the host computer into at least one page designated by the host address or host addresses supplied from the host computer when the determining means determines that the page or pages designated by the host address or host addresses supplied from the host computer are the searched start page, the searched start page and subsequent at least one page, or at least one page located after the start page (using searched empty block to write new data, Col. 1, lines 45-67; writing command, Col. 9, lines 40-67); and

start page information write means for writing start page information into a redundancy area of a start page at a time when the write means starts writing data supplied from the host computer into the flash memory (updating of the empty block table during the write, Col. 11, lines 48-51), the start page information representing a next page of a page into which data of last

sector of the data supplied from the host computer is to be written (the next address storing position, Col. 1, lines 60-67); a page being next page of a page which is in a physical block corresponding to the host address supplied from the host computer and into which last data is to be written becoming new start page, the search means searching the start page based on the start information (searching in the data writing mode for an empty location, Col. 2, lines 35-55).

Regarding Claim 22, Hiraka discloses a memory controller (Figure 1, 10) including a flash memory system (flash disk card 12) having a flash memory (FM0).

Claim 23 is rejected using the same rationale as that of Claim 21 wherein the memory control method of claim 23 is performed by the memory controller of claim 21.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Midys Rojas whose telephone number is (571) 272-4207. The examiner can normally be reached on M-TH 6:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sanjiv Shah can be reached on (571) 272-4098. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Midys Rojas/  
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Examiner  
Art Unit 2185

MR



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